

**ABSTRACT**

The present invention provides a plastic optical fiber, which enables the distributions of refractive indices to be adjusted easily, and a method for manufacturing a plastic optical fiber perform. The plastic optical fiber perform includes a substrate having one or more holes, and one or more materials provided in the holes for a refractive index adjustment purpose. The distributions of refractive indices of the optical fiber preform are manipulated by adjusting the arrangement types, distributions, and the number of holes formed in the substrate and refractive indices of the materials used for refractive index adjustment.